THE SURGICAL TREATMENT OF CHRONIC CATARRHAL APPENDICITIS.

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In searching for the practical uses of the appendix vermiformis, I am constrained to repeat the old adage,

"Everything can something do,
But pray of what use are you?"

Unless it is to get up a disturbance with humanity, and give employment to the surgeon and the undertaker.

We are told that the only mammals which are so fortunate as to have escaped this rudimentary conclusion of a once lengthened cæcum are the orang-outang and the wambat, excepting an occasional *anomalia* found in the human family who has fortunately got beyond this rudimentary decoration.

So much has been said and written about this useless appendage in the last ten years, that I shall not take up your time discussing its anatomy and anatomical relations, nor in trying to find an excuse for its existence by attempting to hypothesize some imaginary, trivial benefit it might be, under certain circumstances, in aiding the process of digestion, but will proceed at once to the consideration of the surgical treatment of chronic catarrh of this distinguished appendage.

Whilst catarrh in the more limited sense of the word is intended to indicate a flow or discharge from a mucous surface, according to the older authors, yet by the more recent writers it has been given a wider scope, and consequently it has been applied to general inflammations of

the mucous membranes, which of course may be either acute or chronic.

Again, whilst catarrhal inflammations of the mucous membranes are usually accompanied by more or less discharge, yet we may have a chronic inflammation of a mucous membrane with little or no discharge, in which case there is usually an atrophic condition of the membrane. Usually, however, there is hypertrophy of this membrane with an excessive mucous or even muco-purulent discharge, which is not infrequently associated with a circumscribed necrosis of the mucous membrane, which in chronic catarrhal appendicitis frequently extends to and may even involve the serous coat of the appendix, producing a complete perforation.

The peculiar location of the appendix vermiformis, associated with its anatomical construction and relations, predisposes this particular portion of the digestive tract to chronic catarrhal inflammation more than any other one portion of the intestinal canal.

Some one has said that the absorbent properties of this rudimentary attachment were greater in proportion to its size than any other portion of the alimentary tract; and hence the liquid portions of the contents of the intestine which found their way into the appendix were more rapidly absorbed and therefore left a concrete mass which becomes a foreign body, and sets up an inflammation of the mucous membrane which soon becomes chronic.

As to the veracity of this statement, I am not prepared to give any definite opinion, but it seems to me that owing to the small diameter of this appendage, which in addition is closed at its most pendent portion, and which opens above into the cæcum, from which gravity alone will promptly supply it with both liquids and solids at all hours of the day or night, it is easy to account for the formation of concretions in this appendicular attachment.

Under the circumstances there must be more or less stasis of the contents of the appendix vermiformis, which

ordinarily must be emptied of its contents by a sort of a *vis a tergo* process, which we must all concede is not very active.

Consequently, owing to the imperfect circulation of the contents of the appendix and the continued absorption of the liquid portions therein, it is easy to account for the formation of these concretions which are liable to be followed with chronic catarrhal inflammation and ulceration of its mucous membrane, which so frequently result in perforations or acute suppurative inflammation which not only threatens the patient's life but often destroys it altogether. In addition to these concretions which are found so frequently in the appendix, it is liable to be invaded by cherry pits, grape seeds and the like, which have the same effect on it as the concretions which may accumulate in it from the contents of the bowel.

Again, we may have a chronic appendicitis following an attack of acute enteritis or even an attack of peritonitis, metritis, salpingitis or ovaritis, which often results in adhesions of the appendix to some of these parts. It is only a few weeks since I operated on a case, where I found the appendix vermiformis firmly attached to the fundus of the uterus and which was greatly enlarged and thickened by chronic inflammation.

Again, I have found it adherent to the broad ligament, the fimbriated extremity of the Fallopian tube, and even the ovary.

The next important question is, how shall we determine the existence of chronic catarrhal appendicitis with practicable accuracy?

We must all admit that simple acute appendicitis or suppurative perityphlitis is easily diagnosticated; but when it comes to making an accurate diagnosis of chronic catarrhal appendicitis, it is much more difficult. It is true, that many cases of chronic catarrhal appendicitis fail to come under the notice of a surgeon until they are suffering from an exacerbation of their chronic trouble, or an

acute attack of appendicitis which is threatening life. Yet, when these chronic cases do present themselves to the surgeon during the intervals of their recurrent attacks of acute inflammation, then is the time for the surgeon to determine the exact nature of his case and follow it with practical and timely advice, and not wait for an inflammatory eruption to occur before he decides what it is, or what he will do for it.

The point was well taken by Fitz when he claimed that usually the primary causes of every perityphlitic abscess were the result of a perforated appendicitis (and we might add) or a chronic inflammation of the appendix which so frequently results in perforation sooner or later.

This being true then, it is easy to see the importance of making a clear diagnosis of a chronic catarrhal inflammation of this rudiment of the cæcum as early as possible. In order to do this you will find it important to ascertain the condition of the bowels; for if you have constipation alternating with diarrhœa and accompanied with circumscribed tenderness over the region of the right iliac fossa, it is well to be on the lookout for a case of chronic catarrhal appendicitis, and especially so if there is a history of having had an attack of acute perityphlitis. If the case is a woman, you may be able to feel the thickened appendix by placing one of the index fingers well up in the right horn of the vagina whilst you palpate over the region of the appendix with the other, excepting in cases where the abdominal walls are very thick and firm.

In this class of cases you can easily distinguish between the ovary and the appendix by remembering that when you squeeze the ovary it produces a sickening sensation, whilst pressing on the inflamed appendix produces only pain without this peculiar sensation of nausea.

In the male there is no occasion for making a diagnosis of this character. The very fact that you have a circumscribed tenderness over the region of the right

iliac fossa is sufficient evidence, barring the bare possibility of a hernia, to arouse your suspicions.

If the irritation is very marked, you may have vomiting as well as constipation with all the symptoms of intestinal obstruction. I have seen numerous cases of this character when there was every apparent evidence of obstruction to the intestinal tract, but which in reality was not obstructed at all only so far as the inflammation of the appendix extended to the muscular walls of the cæcum and produced temporary paralysis resulting in obstruction.

I recall one case in particular which I reported some years ago, in which there was a strangulated hernia of only the appendix vermiformis, in which there was every symptom of occlusion of the bowel, which was relieved by an operation just as promptly as if we had had a real obstruction of the intestines. I speak of this to show you that inflammation of the appendix will produce constipation and even stercoraceous vomiting just the same as in complete obstruction of the bowel.

In the severer forms of chronic catarrhal appendicitis the pain may occasionally be referred to the umbilical or epigastric region. Again, the patient, if a close observer, may notice mucous or muco-purulent discharges attached to his stools, which of course might come from some other part of the intestinal tract, but if he has circumscribed tenderness over the region of the appendix and no marked tenderness elsewhere along the alimentary canal, it is reasonable to conclude that it is more probable that it comes from the appendix than elsewhere.

Again, if a patient comes to you complaining of either gastric or intestinal indigestion or both, accompanied with a circumscribed tenderness over the region of the right iliac fossa, look out for a case of chronic catarrhal appendicitis.

In a patient where the abdominal wall is very thin and the appendix is very much thickened, you may be

able to trace it by a careful digital examination associated with percussion.

Rectal examinations are only beneficial for obtaining negative results; for instance, a patient is having mucous and muco-purulent discharges associated with the stools, and it is a question whether the mucus comes from the rectum or higher up, then an examination may decide the question which previously may have been one of doubt.

We have already spoken of attachments which may occur in the female between the appendix and the uterus or some of its appendages; of course in the male these can all be excluded, but we may have omental attachments, which are common to both.

I remember of holding a post-mortem a few years ago on a physician who died of rupture of the heart, who, during life, had frequently referred to a tumor in the right iliac fossa, and who had frequent attacks of gastric and intestinal indigestion, which the autopsy revealed to be undoubtedly the result of chronic catarrhal appendicitis, as we found the appendix attached to a roll of omentum, no doubt the sequela of chronic inflammation.

You will readily concede that we might have the same condition of affairs regarding attachments of the omentum and appendix in the female as well as in the male.

Having cleared up your diagnosis and fully decided that you have a case of chronic catarrhal appendicitis, the next important question that confronts you is, how shall we treat it?

Of course, the timid and uncertain doctor will always advise the expectant treatment, and is ever ready to "wait for something to turn up," which advice the *unsuspecting* patient is usually very ready and willing to accept.

Arnica, poultices, liniments and blisters form the chief weapons of *external* "warfare" under these circumstances, whilst "blood medicine," "liver pills" and

"tonics" are given to fortify the *inner man* against the invasion of this subtle foe.

The patient gets better and worse, alternately, from time to time, until finally a crisis comes. By this time, however, the catarrhal inflammation has done its work, and a perforation has taken place, and the result is an attack of perityphlitis. Acute, circumscribed, or even general peritonitis has set in, and death is staring the patient in the face. A surgeon is sent for, but it is too late, and the undertaker *completes* the work of expectancy. If, however, nature comes to the rescue and throws up a fortification, so to speak, of plastic material around the perforation, and confines the escaping contents of the perforated appendix to a limited area, then you will most likely have a perityphlitic abscess, which the surgeon's knife may relieve and permit your patient to get well, with a lot of peritoneal adhesions and general thickening around the end of the cæcum, which may possibly involve the ileo-cæcal valve, and lay the foundation for a case of intestinal stenosis at some time in the future.

In illustration of the above I recall a case, to which I was called in counsel a few years ago, of a young man whom I found dying from acute peritonitis, which I diagnosed as a result of a perforation somewhere in the region of the appendix.

A post-mortem confirmed my opinion, and revealed a concretion in the appendix which had set up a chronic catarrhal appendicitis, followed with perforation, general peritonitis and death, in proof of which I will ask you to examine the specimens which I obtained from this case, and which I will now pass around the room for your inspection.

In the same connection I recall another case to which I was called a few hours before death, which the post-mortem revealed to be a case of acute peritonitis, the result of a perforation of the appendix from chronic

appendicitis. In this case, however, I was not fortunate enough to secure the specimen.

I might go on multiplying these cases, but that would only be occupying your time to no advantage, and would prove nothing more than I have already proven; for as has been said, "by the mouth of two or three witnesses, every word shall be established."

There is no question in my mind but that a timely amputation of the appendix in each of these cases would have saved their lives and secured them health and comfort for years to come.

It was my good fortune on one of my visits to Professor Senn's clinic, at the Milwaukee Hospital, to see him examine a case and diagnosticate chronic catarrhal appendicitis, and witness him operate the same case and remove from a young man a thickened appendix, the result of chronic inflammation, the walls of which had almost ulcerated through in several places, producing a perforation which no doubt would have occurred in a short time, had he not been operated upon and the appendix amputated.

In answer then to my question, "How shall I treat these cases?" I will reply: By all means amputate the appendix just as soon as you are positive of the existence of chronic catarrhal inflammation of the same. Don't wait for something to turn up—those days are gone by; be accurate and active, and don't wait for the undertaker to come to your rescue and bury the results of your procrastination beneath the sods of the valley. The operation is an easy one and not attended with any marked danger to life, if properly performed under strictly aseptic precautions. In fact, the patient assumes more danger every day he lives harboring a difficulty of this character than he does in having it removed by an operation. Again, you have the satisfaction of knowing, that like a sheep's tail, the appendix is neither useful nor ornamental, and the sooner it is cut off the better.

In amputating the appendix, it is only necessary to make an incision over the region of the appendix parallel to Poupart's ligament just large enough to expose the end of the cæcum and its rudimentary attachment. Then ligate the appendix as close as possible to the cæcum with an aseptic silk ligature, nip off the offending rudiment with a pair of scissors, cover the stump carefully with a hood of the omentum which should be held in place with a few aseptic silk stitches, make your toilet carefully and close up the external wound and cover it with an antiseptic dressing; place your patient in bed and keep him there until the parts are thoroughly united and have regained strength enough to resist the tendency to ventral hernia.

When this operation has been successfully performed, you have removed the ax, so to speak, which was hanging by a frail thread over the head of your patient and daily threatening his life. You have given him a new lease of life with an extended expectancy of the same, and made a patient who was once uninsurable a fit subject for insurance, saying nothing of the comfort, both mental and physical, you have afforded him by the operation.

Then, as Solomon says, "the conclusion of the whole matter is:"

1st. That the appendix vermiformis is a useless rudiment of the cæcum.

2d. That chronic catarrhal appendicitis is always dangerous and liable to be followed at any time with hazardous and even fatal results.

3d. That medical treatment is of little or no permanent value in this class of cases.

4th. That the only safe and reliable method of treating chronic catarrhal appendicitis, and the only treatment that will promise permanent relief to your patient, is prompt amputation of the appendix.